

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OKLAHOMA**

STATE OF OKLAHOMA,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Case No. 05-cv-329-GKF(PJC)
	)	
TYSON FOODS, INC., et al.,	)	
	)	
Defendants.	)	

**STATE OF OKLAHOMA'S REPLY IN FURTHER SUPPORT OF  
ITS MOTION IN LIMINE TO PRECLUDE EXPERT  
TESTIMONY OF DEFENDANTS' WITNESS WAYNE M. GRIP [DKT #2059]**

Plaintiff, the State of Oklahoma ("the State") has moved, pursuant to Fed. R. Evid. 104 and 702, and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), for an order in limine precluding the expert testimony of Defendants' witness Wayne M. Grip regarding the volume of sediments "relocated" in the Illinois River channel by erosion by the river itself (in contrast to, for example, sediments relocated by run-off). In their response to the State's Motion, Defendants set up a series of straw-men arguments -- *e.g.*, that photogrammetry is a recognized and reliable science that, properly applied, can pass muster under *Daubert*, and that Mr. Grip has expertise in photogrammetry -- all the while neglecting to adequately answer the actual substance of the State's Motion -- namely, that Mr. Grip, who has no background or experience in fluvial geomorphology, is unqualified to testify as to the fact of erosion, let alone, quantify its amount.<sup>1</sup>

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<sup>1</sup> In their Response, pp. 9-10, Defendants have conceded that Mr. Grip cannot relate the movement of sediments "relocated" in the Illinois River to the movement of nutrients "relocated" in the Illinois River. Rather, Defendants contend that other experts will opine on this topic. *See id.* ("The significance of the erosion will be explained by others . . ."). However, given that Mr. Grip is unqualified to testify about the fact and volume of erosion by the Illinois

At the outset, Defendants' straw-men arguments can be quickly put to rest; the two sides agree that photogrammetry is a recognized and reliable scientific technique when properly applied and that Mr. Grip has qualifications as a photogrammetrist.

More significant for purposes of this Motion, however, is the fact that both sides agree that Mr. Grip has *no* qualifications in the discipline of fluvial geomorphology.<sup>2</sup> *See* Response, pp. 3-4. Therein lies the problem with Mr. Grip's proposed testimony: Mr. Grip lacks the requisite interdisciplinary qualifications to be able to reliably opine as to the volume of sediments relocated in the Illinois River channel through erosion from the banks of the Illinois River or from abrupt changes in the river course of the Illinois River. *See* Fed. R. Evid. 702; *In re Williams Securities Litigation*, 496 F. Supp. 2d 1195, 1232 (N.D. Okla. 2007). Reliable testimony on this issue would require more than mere qualifications in the field of photogrammetry. It would require Mr. Grip's background in the field of photogrammetry to be coupled with an additional discipline of expertise -- fluvial geomorphology. This is a discipline in which he has no expertise.

As noted in the State's Motion, p. 1, Mr. Grip has a B.S. degree in geology. *See* DKT #2059-2 (Grip Depo., 9:3). He has no degree in fluvial geomorphology, has not published any peer-reviewed articles in geology or geomorphology, has no certifications as a geologist, and is not a member of any professional geological association or group. *See id.* (Grip Depo., 22:12-15, 22:22-23:6, 82:5-19). He simply has no background in the relevant subject area necessary to

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River itself, it necessarily follows that these subsidiary, dependent opinions are inadmissible. When the first domino falls, the rest must follow.

<sup>2</sup> Fluvial geomorphology is "the study of river dynamics and how rivers change course." *See Harding v. Savoy*, 2002 Mont. LEXIS 3286, \*16 (Mont. Dist. Ct. June 4, 2002); *see also* Dictionary of Physical Geography (defining fluvial geomorphology as "the study of the morphology of environments worked by rivers").

proffer an expert opinion. Further, Mr. Grip has admitted that (1) he has never measured the amount of sediment moving through a floodplain, (2) he does not know if the methodology he employed in reaching his opinions had been peer reviewed, (3) he did not do any onsite investigations or measurements to confirm the accuracy of his interpretations, and (4) he did not research relevant scientific literature to confirm the accuracy of his interpretations. *See* State's Motion, p. 2. Yet further, Defendants do not cite a single authority that photogrammetry alone can be used to reliably calculate erosion of sediments.<sup>3</sup> *See Dodge v. Cotter Corp.*, 328 F.3d 1212, 1222 (10th Cir. 2003) ("To be reliable under *Daubert*, an expert's scientific testimony must be based on scientific knowledge . . ."); *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 590 (1993) ("[I]n order to qualify as 'scientific knowledge,' an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation -- *i.e.*, 'good grounds,' based on what is known").

Simply put, expertise in the area of fluvial geomorphology is necessary to reliably calculate riverbank erosion. In contrast, Mr. Grip's area of qualification is limited to photogrammetry, which is "the science of making reliable measurements by the use of photographs and esp[ecially] aerial photographs (as in surveying)." *See Geospan Corp. v. Pictometry Int'l Corp.*, 598 F.Supp.2d 968, 969 fn. 1 (D. Minn. 2008) (quoting Webster's New Collegiate Dictionary). The State does not dispute that, using photogrammetry Mr. Grip may be able to measure changes over time in the location of the channel of that portion of the Illinois River he studied. But the aerial snap-shots in time that form the basis of Mr. Grip's opinions --

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<sup>3</sup> Rather, Defendants merely make an inapposite analogy to calculations needed for "cut and fill" projects commonly associated with construction projects. *See* Response, pp. 2-3. Needless to say, calculating the amount of soil that needs to be removed or brought in by construction equipment is a very different proposition from characterizing the complex dynamics of stream-bank erosion, and the volume and locations of sediments being transported over a long period of time by a river.

sophisticated though they may be -- cannot *by themselves* support his testimony as to the volume of sediments "relocated" "by the river itself." See DKT #2059-3, p. 4; Response, p. 2. Several key analytical steps and facts are missing.

The very cases cited by Defendants in their Response, p. 6, underscore this point. These cases show photogrammetry either being employed *by itself* to establish a static condition at a particular time, or *being coupled with another discipline* to describe and establish a dynamic process. None of the cases, however, show photogrammetry being used by itself to describe and establish a dynamic process. For example, *Waste Management of Alameda County, Inc. v. East Bay Regional Park District*, 135 F. Supp. 2d 1071 (N.D. Cal. 2001), *Napeahi v. Wilson*, 1996 U.S. LEXIS 21851 (D. Haw. Sept. 5, 1996), and *Goodman v. City of Crystal River*, 669 F. Supp. 394, 396 (M.D. Fla. 1987), each reflect the former -- photogrammetry being used by itself to establish a static condition at a particular time. See *Waste Management*, 135 F.Supp.2d at 1081 (photogrammetry establishing that 25% of site did not meet 3% slope requirement); *Napeahi*, 1996 U.S. LEXIS 21851, \*18 (photogrammetry establishing state of tidal ponds at high and low tides); *Goodman*, 669 F. Supp. at 396 (photogrammetry establishing existence of an outlet channel from water body).

In contrast, *Canal Authority of the State of Florida v. Callaway*, 489 F.2d 567, 571 (5th Cir. 1974), and *Missouri v. Department of Army Corps of Engineers*, 526 F. Supp. 660, 662 (W.D. Mo. 1980), both reflect the latter use of the technique -- photogrammetry being coupled with another discipline to describe and establish a dynamic process. See *Missouri*, 526 F. Supp. at 662 (expert with qualifications in both photogrammetry *and* channel hydraulics testifying as to rates of erosion before and after construction of dam); *Canal Authority*, 489 F.2d at 571

(interagency task force of more than 50 experts in different fields, including experts in field of photogrammetry, making environmental recommendations).

In sum, because his expertise is limited to photogrammetry alone, Mr. Grip does not have the requisite qualifications to testify as to the fluvial geomorphology occurring in that portion of the Illinois River he studied. *See In re Williams Securities Litigation*, 496 F. Supp. 2d at 1232 ("It should be borne in mind that the issue with regard to expert testimony is not the qualifications of a witness in the abstract, but whether those qualifications provide a foundation for a witness to answer a specific question") (internal quotations omitted). Specifically, Mr. Grip lacks qualification to testify as to the fact that sediments are being "relocated" "by the river itself" or the volume of any such sediments. As such, Mr. Grip's opinions set forth in his second report, *see* DKT #2059-3 must be excluded. *See* Fed. R. Evid. 702; *Dodge*, 328 F.3d at 1222; *Daubert*, 509 U.S. at 590.

\* \* \*

WHEREFORE, in light of the foregoing, this Court should enter an order in limine precluding the expert testimony of Defendants' witness Wayne M. Grip regarding the volume of sediments "relocated" in the Illinois River channel by the river itself.

Respectfully Submitted,

W.A. Drew Edmondson OBA # 2628  
ATTORNEY GENERAL  
Kelly H. Burch OBA #17067  
ASSISTANT ATTORNEYS GENERAL  
State of Oklahoma  
313 N.E. 21<sup>st</sup> St.  
Oklahoma City, OK 73105  
(405) 521-3921

/s/ Richard T. Garren

M. David Riggs OBA #7583  
Joseph P. Lennart OBA #5371  
Richard T. Garren OBA #3253  
Sharon K. Weaver OBA #19010  
Robert A. Nance OBA #6581  
D. Sharon Gentry OBA #15641  
David P. Page OBA #6852  
RIGGS, ABNEY, NEAL, TURPEN,  
ORBISON & LEWIS  
502 West Sixth Street  
Tulsa, OK 74119  
(918) 587-3161

Louis W. Bullock OBA #1305  
Robert M. Blakemore OBA 18656  
BULLOCK, BULLOCK & BLAKEMORE  
110 West Seventh Street Suite 707  
Tulsa OK 74119  
(918) 584-2001

Frederick C. Baker  
(admitted *pro hac vice*)  
Elizabeth C. Ward  
(admitted *pro hac vice*)  
Elizabeth Claire Xidis  
(admitted *pro hac vice*)  
MOTLEY RICE, LLC  
28 Bridgeside Boulevard  
Mount Pleasant, SC 29465  
(843) 216-9280

William H. Narwold  
(admitted *pro hac vice*)  
Ingrid L. Moll  
(admitted *pro hac vice*)  
MOTLEY RICE, LLC  
20 Church Street, 17<sup>th</sup> Floor  
Hartford, CT 06103  
(860) 882-1676

Jonathan D. Orent  
(admitted *pro hac vice*)  
Michael G. Rousseau  
(admitted *pro hac vice*)  
Fidelma L. Fitzpatrick  
(admitted *pro hac vice*)  
MOTLEY RICE, LLC

321 South Main Street  
Providence, RI 02940  
(401) 457-7700

Attorneys for the State of Oklahoma

### **CERTIFICATE OF SERVICE**

I hereby certify that on this 19<sup>th</sup> day of June, 2009, I electronically transmitted the above and foregoing pleading to the Clerk of the Court using the ECF System for filing and a transmittal of a Notice of Electronic Filing to the following ECF registrants:

W. A. Drew Edmondson, Attorney General	fc_docket@oag.state.ok.us
Kelly H. Burch, Assistant Attorney General	kelly_burch@oag.state.ok.us
M. David Riggs	driggs@riggsabney.com
Joseph P. Lennart	jlennart@riggsabney.com
Richard T. Garren	rgarren@riggsabney.com
Sharon K. Weaver	sweaver@riggsabney.com
Robert A. Nance	rnance@riggsabney.com
D. Sharon Gentry	sgentry@riggsabney.com
David P. Page	dpage@riggsabney.com
RIGGS, ABNEY, NEAL, TURPEN, ORBISON & LEWIS	
Louis Werner Bullock	lbullock@bullock-blakemore.com
Robert M. Blakemore	bblakemore@bullock-blakemore.com
BULLOCK, BULLOCK & BLAKEMORE	
Frederick C. Baker	fbaker@motleyrice.com
Elizabeth C. Ward	lward@motleyrice.com
Elizabeth Claire Xidis	cxidis@motleyrice.com
William H. Narwold	bnarwold@motleyrice.com
Ingrid L. Moll	imoll@motleyrice.com
Jonathan D. Orent	jorent@motleyrice.com
Michael G. Rousseau	mrousseau@motleyrice.com
Fidelma L. Fitzpatrick	ffitzpatrick@motleyrice.com
MOTLEY RICE, LLC	
<b><u>Counsel for State of Oklahoma</u></b>	
Robert P. Redemann	rredemann@pmrlaw.net
PERRINE, MCGIVERN, REDEMANN, REID, BARRY & TAYLOR, P.L.L.C.	
David C. Senger	david@cgmlawok.com

Robert E Sanders	rsanders@youngwilliams.com
Edwin Stephen Williams	steve.williams@youngwilliams.com
YOUNG WILLIAMS P.A.	
<b><u>Counsel for Cal-Maine Farms, Inc and Cal-Maine Foods, Inc.</u></b>	
John H. Tucker	jtucker@rhodesokla.com
Theresa Noble Hill	thill@rhodesokla.com
Colin Hampton Tucker	ctucker@rhodesokla.com
Kerry R. Lewis	klewis@rhodesokla.com
RHODES, HIERONYMUS, JONES, TUCKER & GABLE	
Terry Wayen West	terry@thewestlawfirm.com
THE WEST LAW FIRM	
Delmar R. Ehrich	dehrich@faegre.com
Bruce Jones	bjones@faegre.com
Krisann C. Kleibacker Lee	kklee@faegre.com
Todd P. Walker	twalker@faegre.com
Christopher H. Dolan	cdolan@faegre.com
Melissa C. Collins	mcollins@faegre.com
Colin C. Deihl	cdeihl@faegre.com
Randall E. Kahnke	rkahnke@faegre.com
FAEGRE & BENSON, LLP	
Dara D. Mann	dmann@mckennalong.com
MCKENNA, LONG & ALDRIDGE LLP	
<b><u>Counsel for Cargill, Inc. &amp; Cargill Turkey Production, LLC</u></b>	
James Martin Graves	jgraves@bassettlawfirm.com
Gary V Weeks	gweeks@bassettlawfirm.com
Woody Bassett	wbassett@bassettlawfirm.com
K. C. Dupps Tucker	kctucker@bassettlawfirm.com
Earl Lee "Buddy" Chadick	bchadick@bassettlawfirm.com
Vincent O. Chadick	vchadick@bassettlawfirm.com
BASSETT LAW FIRM	
George W. Owens	gwo@owenslawfirmnpc.com
Randall E. Rose	rer@owenslawfirmnpc.com
OWENS LAW FIRM, P.C.	
<b><u>Counsel for George's Inc. &amp; George's Farms, Inc.</u></b>	

A. Scott McDaniel	smcdaniel@mhla-law.com
Nicole Longwell	nlongwell@mhla-law.com
Philip Hixon	phixon@mhla-law.com
Craig A. Merkes	cmerkes@mhla-law.com
MCDANIEL, HIXON, LONGWELL & ACORD, PLLC	
Sherry P. Bartley	sbartley@mwsgw.com
MITCHELL, WILLIAMS, SELIG, GATES & WOODYARD, PLLC	
<b><u>Counsel for Peterson Farms, Inc.</u></b>	
John Elrod	jelrod@cwlaw.com
Vicki Bronson	vbronson@cwlaw.com
P. Joshua Wisley	jwisley@cwlaw.com
Bruce W. Freeman	bfreeman@cwlaw.com
D. Richard Funk	rfunk@cwlaw.com
CONNER & WINTERS, LLP	
<b><u>Counsel for Simmons Foods, Inc.</u></b>	
Stephen L. Jantzen	sjantzen@ryanwhaley.com
Paula M. Buchwald	pbuchwald@ryanwhaley.com
Patrick M. Ryan	pryan@ryanwhaley.com
RYAN, WHALEY, COLDIRON & SHANDY, P.C.	
Mark D. Hopson	mhopson@sidley.com
Jay Thomas Jorgensen	jjorgensen@sidley.com
Timothy K. Webster	twebster@sidley.com
Thomas C. Green	tgreen@sidley.com
Gordon D. Todd	gtodd@sidley.com
SIDLEY, AUSTIN, BROWN & WOOD LLP	
Robert W. George	robert.george@tyson.com
L. Bryan Burns	bryan.burns@tyson.com
Timothy T. Jones	tim.jones@tyson.com
TYSON FOODS, INC	
Michael R. Bond	michael.bond@kutakrock.com
Erin W. Thompson	erin.thompson@kutakrock.com
Dustin R. Darst	dustin.darst@kutakrock.com
KUTAK ROCK, LLP	
<b><u>Counsel for Tyson Foods, Inc., Tyson Poultry, Inc., Tyson Chicken, Inc., &amp; Cobb-Vantress, Inc.</u></b>	
R. Thomas Lay	rtl@kiralaw.com

KERR, IRVINE, RHODES & ABLES	
Frank M. Evans, III	fevans@lathropgage.com
Jennifer Stockton Griffin	jgriffin@lathropgage.com
David Gregory Brown	
LATHROP & GAGE LC	
<b><u>Counsel for Willow Brook Foods, Inc.</u></b>	
Robin S Conrad	rconrad@uschamber.com
NATIONAL CHAMBER LITIGATION CENTER	
Gary S Chilton	gchilton@hcdattorneys.com
HOLLADAY, CHILTON AND DEGIUSTI, PLLC	
<b><u>Counsel for US Chamber of Commerce and American Tort Reform Association</u></b>	
D. Kenyon Williams, Jr.	kwilliams@hallestill.com
Michael D. Graves	mgraves@hallestill.com
HALL, ESTILL, HARDWICK, GABLE, GOLDEN & NELSON	
<b><u>Counsel for Poultry Growers/Interested Parties/ Poultry Partners, Inc.</u></b>	
Richard Ford	richard.ford@crowedunlevy.com
LeAnne Burnett	leanne.burnett@crowedunlevy.com
CROWE & DUNLEVY	
<b><u>Counsel for Oklahoma Farm Bureau, Inc.</u></b>	
Kendra Akin Jones, Assistant Attorney General	Kendra.Jones@arkansasag.gov
Charles L. Moulton, Sr Assistant Attorney General	Charles.Moulton@arkansasag.gov
<b><u>Counsel for State of Arkansas and Arkansas National Resources Commission</u></b>	
Mark Richard Mullins	richard.mullins@mcafeetaft.com
MCAFEE & TAFT	
<b><u>Counsel for Texas Farm Bureau; Texas Cattle Feeders Association; Texas Pork Producers Association and Texas Association of Dairymen</u></b>	
Mia Vahlberg	mvahlberg@gablelaw.com
GABLE GOTWALS	
James T. Banks	jtbanks@hhlaw.com
Adam J. Siegel	ajsiegel@hhlaw.com
HOGAN & HARTSON, LLP	

<b><u>Counsel for National Chicken Council; U.S. Poultry and Egg Association &amp; National Turkey Federation</u></b>	
John D. Russell	jrussell@fellerssnider.com
FELLERS, SNIDER, BLANKENSHIP, BAILEY & TIPPENS, PC	
William A. Waddell, Jr.	waddell@fec.net
David E. Choate	dchoate@fec.net
FRIDAY, ELDREDGE & CLARK, LLP	
<b><u>Counsel for Arkansas Farm Bureau Federation</u></b>	
Barry Greg Reynolds	reynolds@titushillis.com
Jessica E. Rainey	jrainey@titushillis.com
TITUS, HILLIS, REYNOLDS, LOVE, DICKMAN & MCCALMON	
Nikaa Baugh Jordan	njordan@lightfootlaw.com
William S. Cox, III	wcox@lightfootlaw.com
LIGHTFOOT, FRANKLIN & WHITE, LLC	
<b><u>Counsel for American Farm Bureau and National Cattlemen's Beef Association</u></b>	
Duane L. Berlin	dberlin@levberlin.com
LEV & BERLIN PC	
<b><u>Counsel for Council of American Survey Research Organizations &amp; American Association for Public Opinion Research</u></b>	

Also on this 19<sup>th</sup> day of June, 2009 I mailed a copy of the above and foregoing pleading to:

**Thomas C Green** -- via email: tcgreen@sidley.com  
Sidley, Austin, Brown & Wood LLP

**Dustin McDaniel**  
**Justin Allen**

Office of the Attorney General (Little Rock)  
323 Center St, Ste 200  
Little Rock, AR 72201-2610

**Steven B. Randall**  
58185 County Rd 658  
Kansas, Ok 74347

**Cary Silverman** -- via email: [csilverman@shb.com](mailto:csilverman@shb.com)  
**Victor E Schwartz**  
Shook Hardy & Bacon LLP (Washington DC)

/s/ Richard T. Garren  
Richard T. Garren